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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ZIYA ARAL, RONI PUTRA, ALISTAIR D. BLACK, YONJIAN
REN, and WENLEI MAO

Appeal 2009-006253
Application 09/910,662
Technology Center 2400

Decided: December 1, 2009

Before MAHSHID D. SAADAT, CARLA M. KRIVAK, and
CARL W. WHITEHEAD, JR., *Administrative Patent Judges*.

WHITEHEAD, JR., *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-11 and 18-26.¹ App. Br. 7. We have jurisdiction under 35 U.S.C. § 6(b) (2002). We reverse.

STATEMENT OF THE CASE

Appellants invented a system for mirroring write operations of a local storage system to a remote storage system employing non-proprietary network protocol.²

Claim 1, which further illustrates the invention, follows:³

1. A system for mirroring write operations from a local storage system onto a remote storage system, the system comprising:
an asynchronous mirroring driver resident in the local storage system for intercepting I/O transactions to a storage disk of the local storage system, identifying a series of write transactions issued to said storage disk, making

¹ We refer to the Appeal Brief filed July 18, 2007. The Final Rejection mailed August 22, 2006, incorrectly indicated that claims 1-6, 9-11, 18-21, 23 and 25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yanai and McDowell, however within the body of the rejection, the claims were addressed using Srinivasan (Final Rej. 2). *Also see* App. Br. 7. In the Answer, Examiner correctly identified the Srinivasan reference in the rejection statement but failed to mention claims 22, 24 and 26. *See* App. Br. 3. Claims 22, 24 and 26 were addressed within the body of the rejection and therefore we address the merits of the rejection of claims 1-6, 9-11, and 18-26 as being unpatentable over Srinivasan. *See* App. Br. 6.

² *See generally* App. Br. 4-8.

³ Appellants argue the following claim groups separately: (1) 1-6, 9-11, 18-21- 23, 25 and 26 (App. Br. 8-15), (2) claim 7 (App. Br. 15-16) and claim 8 (App. 16). Appellants indicate that claim 24 stands or falls with claim 23 (App. Br. 8). All of the independent claims (1, 3 and 5) are in the first grouping and accordingly, we select claim 1 as representative of the invention. *See* 37 C.F.R. § 41.37(c)(1)(vii).

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an exact copy of the series of write transactions, and storing said exact copy within a series of files that are created on a file-system of the local storage system; and

a first asynchronous mirroring coordinator resident on the local storage system for invoking a file transfer system to transmit the series of files on the local file- system of the local storage system to a file system of the remote storage system via a non-proprietary network protocol to accommodate an exact reproduction at the remote storage system of the series of write transactions as issued to said storage disk of the local storage system.

The Rejections

The Examiner relies upon the following prior art references as evidence of unpatentability:

| | | |
|------------|-----------------|---------------|
| Cannon | US 5,673,382 | Sep. 30, 1997 |
| Durflinger | US 5,713,014 | Jan. 27, 1998 |
| Srinivasan | US 6,823,336 B1 | Nov, 23, 2004 |

Claims 1-6, 9-11, 18-21, 23, and 25 stand rejected under 35 U.S.C. § 102(e) as being unpatentable over Srinivasan (Ans. 3-6).

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Srinivasan and Cannon (Ans. 6-8).

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Srinivasan, Cannon, and Durflinger (Ans. 8-9).

Rather than repeat the arguments of Appellants or the Examiner, we refer to the Briefs and the Answer for their respective details. In this decision, we have considered only those arguments actually made by Appellants. Arguments which Appellants could have made but did not make

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in the Briefs have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2008).

Anticipation Rejection

Appellants argue their invention provides asynchronous mirrored storage by intercepting the I/O transactions to a storage disk in a local storage system while retaining an exact copy of the corresponding write transactions within a series of regular system files within the local storage system. (App. Br 9). Appellants contend that Srinivasan does not store write commands or transactions on the local storage system but send them directly to the secondary system. *Id.* The Examiner argues that Srinivasan intercepts and transmits the write transactions with the remote mirroring facility 30 (Ans. 9).

ISSUE

Have Appellants shown that the Examiner erred in finding that Srinivasan discloses intercepted write transactions wherein an exact copy of the write transactions is retained within the local storage system before being transmitted to a remote or secondary storage system?

FINDINGS OF FACTS

Srinivasan

1. Figure 1 of Srinivasan is reproduced below:

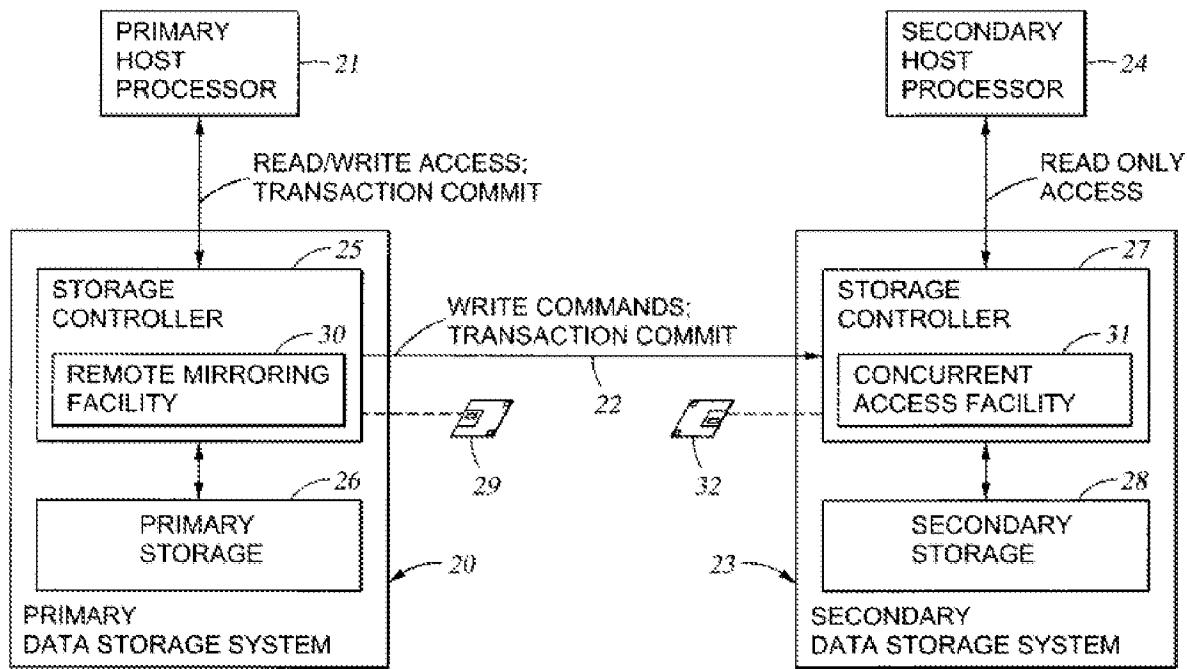


Fig. 1

Figure 1 discloses an embodiment of the invention in which a primary data storage system servicing a primary host processor is linked to a secondary storage system servicing a secondary host processor.

2. Figure 2 of Srinivasan is reproduced below:

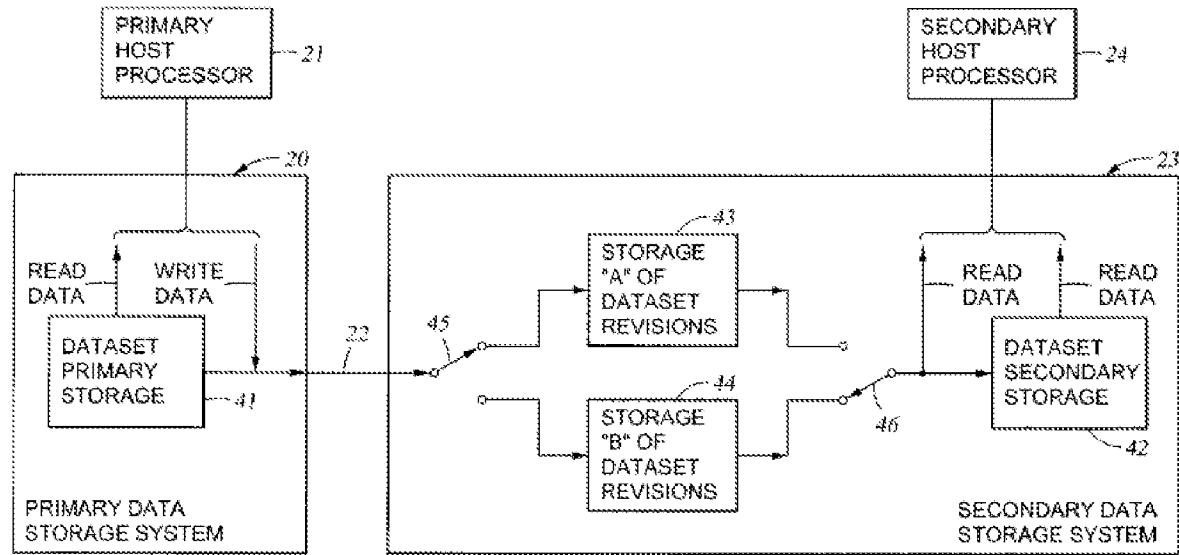


Fig. 2

Figure 2 discloses a block diagram showing control flow through the processing system of Figure 1.

3. The primary data storage system 20 forwards the write data from the primary host processor 21 over the link 22 to the secondary data storage system 23 (Col. 6, ll. 3-6).
4. Figure 13 of Srinivasan is reproduced below:

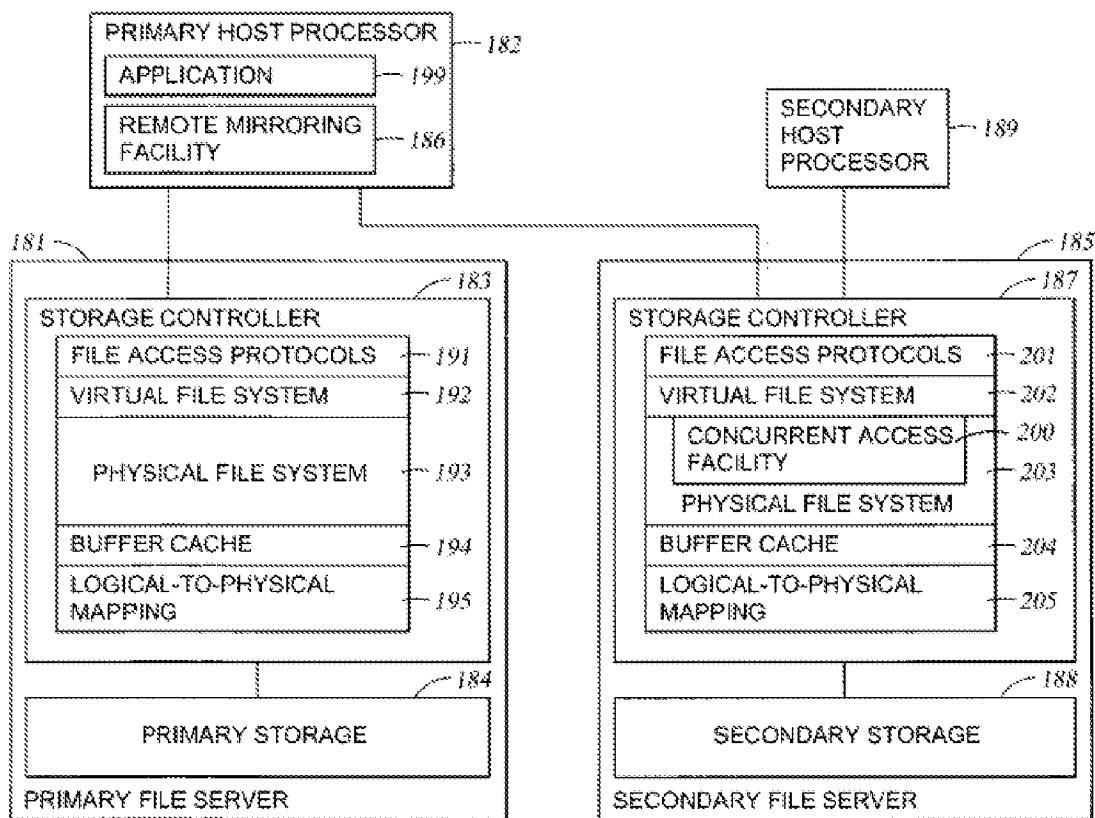


Figure 13 discloses a block diagram of an alternative embodiment in which the data storage systems are file servers.

PRINCIPLES OF LAW

“For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed invention must be identically shown in a single reference.” *In re Bond*, 910 F.2d 831, 832 (Fed. Cir. 1990) (quoting *Diversitech Corp. v. Century Steps, Inc.*, 850 F.2d 675, 677 (Fed.Cir.1988)). “These elements must be arranged as in the claim under review,” *Bond*, 910 F.2d at 832 (citing *Lindemann Maschinenfabrik v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1458 (Fed. Cir. 1984)), but this is not an “*ipsissimis verbis*” test. *Bond*, 910 F.2d at 832-33 (citing *Akzo N.V. v.*

United States Int'l Trade Comm'n, 808 F.2d 1471, 1479, n.11 (Fed. Cir. 1986)).

ANALYSIS

The Examiner relies upon Figure 1 of Srinivasan to support his position that the write transactions are intercepted to a storage disk within the local storage system and transmitted to the second storage system (Ans. 9). *See FF1.* The Examiner further argues that Srinivasan discloses creating exact copies of the write transactions within the local storage system before they are transmitted (Ans. 9). Upon reviewing the references, we find that Srinivasan does not provide support for the Examiner's assertion that exact copies of the write transactions are created and stored within a file system of the local storage system.

We agree with the Examiner that the write transactions are intercepted however; Srinivasan does not store copies of the write transactions on the primary data storage system. *See FF 1-3.* Srinivasan directly transmits the write transactions via a link 22 once they are intercepted (FF 2-3). The Examiner cites columns 6 and 7, lines 52 through 12, respectively, as well as column 15, lines 15-59 of Srinivasan to support his position, but Srinivasan is silent in regards to creating and storing exact copies of the write transactions on the local storage system. *See Ans. 9.*

The Examiner relies upon the second embodiment of Srinivasan and argues that Srinivasan discloses retaining exact copies of the write transactions within the confines of the dataset 41 (Ans. 10). *Also see FF 4.* The Examiner cites to Srinivasan, column 15, lines 57-59 for support, *[t]he secondary file server 185 therefore stores a copy of the file system that is*

stored in the primary file server 181(emphasis ours). This passage, though, does not indicate the storage of write commands on the primary storage system. Appellants argue that Srinivasan discloses maintaining a copy of the dataset; however, the dataset is absent write commands (App. Br. 10). Appellants further argue the dataset is not equivalent to the write transactions and therefore, the dataset is merely a representation of the data after the write transactions have been executed (App. Br. 11). We find Appellants' arguments to be persuasive. Although the Examiner cites several passages from Srinivasan none of them support the position that Srinivasan maintain exact copies of the write transactions on the primary storage system. *See* FF 1-4. Therefore we will not sustain the Examiner's rejection of representative claim 1.

Independent claims 3 and 5 both recite limitations drawn to making and storing exact copies of write transactions on a local or primary storage system. Therefore, we will not sustain the Examiner's rejection of these claims for the same reason as stated previously. We will also not sustain the Examiner's rejection of claims 2, 9, 18, and 20-21, which depend upon claim 1; the rejection of claims 4, 10, 19, 23, and 24, which depend upon claim 3; and the rejection of claims 6, 11, 25, and 26, which depend upon claim 5.

Obviousness Rejection

We will not sustain the Examiner's rejection of claims 7 and 8 which depend upon independent claim 1 for the same reasons stated previously.

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CONCLUSION

Appellants have shown that the Examiner erred in finding that Srinivasan discloses intercepted write transactions wherein an exact copy of the write transactions is retained within the local storage system before being transmitted to a remote or secondary storage system.

ORDER

We will not sustain the Examiner's rejection of claims 1-11, and 18-26.

REVERSED

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